

The life and herpetological collections of James Ramsay, with correction of the type localities of two rare snakes from New South Wales

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ABSTRACT

James Ramsay (22 Dec 1838-7 Oct 1913), elder brother of the zoologist and Australian Museum curator Edward Pierson Ramsay, was an important figure in Australian herpetological history, his collections being among the earliest from western New South Wales. Ramsay was based sequentially on five properties: Cardington (ca 1860-1868), Nanama and Merool Creek (1866-1877), Tyndayrey (1878-1882) and Wittagoona (1884-1889). Among his herpetological collections (lodged in the Australian Museum) were primary type specimens of three species, the frog *Limnodynastes interioris* Fry, 1913, the python *Aspidites ramsayi* (Macleay, 1882) and the elapid snake *Diemenia ferox* Macleay, 1882, now *Oxyuranus microlepidotus* (McCoy, 1878). The type locality of the two snakes is corrected from "near Fort Bourke" to James Ramsay's then property Tyndayrey. Further evidence is provided for a link between *Aspidites ramsayi* and two mammals now extinct in New South Wales, the bilby and the boodie, from James Ramsay's observations.

Key words: Herpetology, James Ramsay, history, *Aspidites ramsayi*, *Oxyuranus microlepidotus*, western New South Wales.

DOI:<http://dx.doi.org/10.7882/AZ.2012.013>

Introduction

On the evening of Wednesday 30 November, 1881 at the meeting of the Linnean Society of New South Wales, William Macleay read a paper describing two new species of snake, the elapid *Diemenia ferox* and the python *Aspidiotes ramsayi*, based on specimens collected by James Ramsay "on his station near Fort Bourke". The paper was published the following year (Macleay 1882). *Diemenia ferox* was subsequently firstly transferred to the genus *Pseudechis* (Boulenger 1886; Waite 1898; Kinghorn 1929), then synonymised with *Diemenia microlepidota* (McCoy 1879) by Kinghorn (1955), who erected a new monotypic genus (*Parademansia*) to accommodate it. This species is now known as *Oxyuranus microlepidotus* (generic transfer by Covacevich *et al.* 1980). *Aspidiotes ramsayi* is now *Aspidites ramsayi*. Both species have more extensive distributions outside New South Wales, but have rarely been recorded since within the state, and are considered either rare or endangered in New South Wales (Sadlier 1994; Sadlier and Pressey 1994; Sadlier *et al.* 1996). Other than the specimens recorded by Macleay, the only other published records of *Oxyuranus microlepidotus* from New South Wales are the two types of *Diemenia microlepidota* McCoy, collected by Gerard Krefft and William Blandowski in 1857 from the junction of the Murray and Darling Rivers, together with an unconfirmed sight record from Salisbury Downs, in the far north-west of the state (Swan 1990; locality noted by Sadlier *et al.* 1996). Although Kinghorn (1929) reported for *Pseudechis ferox* a litter of 25 young (although the species is now known to be oviparous with a clutch size of 11-20; Greer 1997) and commented that it was distributed "along

the Darling River in western New South Wales, where it is widely known as the White-bellied Black Snake" (suggesting that he had received reports of this species from the area), the species was not recorded again until Covacevich and Wombey (1976) reported on discovery of material from Queensland and South Australia.

For *Aspidites ramsayi*, Waite (1894) reported a second specimen from Bourke, donated to the Australian Museum by William John Clunies Ross, of the Technological Museum in Bathurst, and Swan (1990) provided only four localities for the state, two on the Darling River, and two in the far north-west of the state, the latter two being on "Lyndon" and "Avenal" stations. Sadlier *et al.* (1996) and Swan *et al.* (2004) identified the two records on the Darling River as Louth and Bourke.

Both of Macleay's type specimens have been considered lost (Waite 1894; Kinghorn 1955; Stimson 1969; Covacevich and Wombey 1976; Covacevich 1987; Cogger *et al.* 1983; Kluge 1993; McDiarmid *et al.* 1999) and most authors (Cogger *et al.* 1983; Kluge 1993; McDiarmid *et al.* 1999) have considered the types to have been deposited in Macleay's private collection, now the Macleay Museum at the University of Sydney, although they were not mentioned in a list of the Macleay Museum herpetological types (Goldman *et al.* 1969), nor were they mentioned by Cogger (1979) in a list of the Australian Museum herpetological types compiled after the Macleay Museum types were incorporated in that collection on permanent loan.

Given the paucity of state records of both species, it is important to clearly identify the locality for the

specimens, which has consistently been identified as either Bourke or Fort Bourke (e.g., Stimson 1969; Broad *et al.* 1979; Covacevich and Wombley 1976; Cogger *et al.* 1983; Covacevich 1987; Covacevich *et al.* 1988; Kluge 1993; Barker and Barker 1994; Masci and Kendall 1995; McDiarmid *et al.* 1999), or in one case Port Bourke (Stull 1935). While the name Fort Bourke now strictly applies to a property of that name to the north of the Darling River, northwest of the town of Bourke, at the time of description Fort Bourke was often used synonymously with the town of Bourke (Anonymous 1879).

However, study of the life of the collector, James Ramsay, and contemporary records suggests that the Fort Bourke locality given by Macleay is imprecise, and the true locality is much further south.

Biography of James Ramsay

James Ramsay (b. 22 December 1838 at Dobroyde, Sydney; NSW Registry of Births, Deaths & Marriages V1838476 45A/1838) was the seventh of eleven children (the second of six brothers, one of whom died at birth) of Dr David Ramsay and his wife Sarah Ann (née Lord). By 1860, the year of his father's death, and at the age of 21, he was working on "Cardington" Station (now at 32°53'S 148°54'E) on the Bell River, near Molong, NSW (Ramsay 1865; North 1889). It is probable that he first arrived in the area in that year or very shortly before, as Cardington was sold at auction on 15 June 1859 (Anonymous 1859a). The property was described, with the adjoining "Weiragadria" run, as comprising 50,000 acres, and including an extensive orchard and vineyards, producing 600 gallons of wine annually; it also included River Station, Two Mile Creek, Fiddlers, Red Bank and Thurangall outstations and several lambing stations (Anonymous 1859b).

On 6 July 1865, James Ramsay married Emilie Forde in Sydney (Anonymous 1865), and by the following year (Anonymous 1866) he was running "Nanama" Station, near Murrumbateman, NSW (now "Nanima", at 35°01'S 149°06'E), in partnership with Robert Percy Johnston. Johnston had been running Nanama, part of the estate of his father, Robert Johnston of Annandale, from at least 1861 (Anonymous 1861). The partnership was officially dissolved in February 1871, after which time Ramsay was the sole operator (Anonymous 1871), although the station remained the property of Robert Johnston sen. until it was sold at auction in 1885 after his death (Anonymous 1884a).

During his time at Nanama, Ramsay's four children, James Allan (1866-1933), David Bruce (1867-1964), Edward Lord (1870-1956) and Eleanor Louisa (1873-1956) were born, and he was appointed a local magistrate (Anonymous 1870). In 1872-73, he was president of the Yass Pastoral and Agricultural Association (Anon 1872a), and in the same year he applied for gold mining leases on the property (Anonymous 1872b). Alluvial gold had been discovered on the Nanama Creek in 1852 (Anonymous 1861), and a small rush to the area occurred in 1872 with the discovery of three reefs (Anonymous 1872c).

While at Nanama, he also operated with Johnston a second station on Merool Creek. The precise location of this property is not known, but from a contemporary tender for a mail run through the Merool Creek district (Anonymous 1869), which calls for a route between "Coramundra and Narrandera, via Coman's, Timora, Quandry, Welman's Station, Ramsay and Johnson's Station, Bolera, and Medium", I presume Coramundra is Cootamundra, Timora is Temora, Quandry is Quandary, Welman's is the property of C.J. Welman, who operated "Ariah", and Bolera is the modern-day property "Bolero" on the outskirts of Ardlethan, which would make Ramsay and Johnston's station between Ardlethan and Ariah, probably near the town of Mirrool, giving roughly equal distances between localities.

In 1876, drought severely affected Nanama (Anonymous 1876a) and James purchased "Excelsior" run, 20 km S of Jindabyne in the Snowy Mountains, to try to provide grazing for his cattle. However, the drought made it difficult to move his stock, and by the time they reached Excelsior from Merool Creek, winter had set in making it impossible for them to graze (Anonymous 1877a). This seems to have been the last straw for James' management of Nanama.

By February 1878, James had left Nanama and was managing his elder brother David's property "Tindayrey", south of Bourke (Anonymous 1878a,b). Tindayrey (Figure 1; which also appears in the literature as Tindarey, Tindayrie, Tyndayrey and Tyndarey) is now known as Tindarie (31°07'S 145°50'E). In 1885, the Tindayrey Pastoral Holding was defined as comprising the Moquilamba, Moquilamba South, Buckwaroon East, Billagoe, Merrere, Tindayrey, Merrere Back, Merrere A and Merrere B runs (Anonymous 1885). In 1876, Moquilama, Moquilamba South and Tindayrey were each described as 64,000 acres, Buckwaroon East as 60,000 acres, and Merrere as 32,000 acres (Anonymous 1876b), and in 1889, the Tindayrey Pastoral Holding, with the same runs, was defined as 169,956 acres of leasehold, with an additional 168,506 acres of resumed land (Hanson 1889).

Tindayrey was purchased by the Ramsays in 1876 (Anonymous 1876c). Although the press reported that the property had been purchased by J. Ramsay (presumably James rather than his younger brother John Simeon, who was working in Queensland), most subsequent reports list the property as owned by David Ramsay (who was based in Sydney) with James as the manager (e.g., Anonymous 1882a). James may have been acting for his brother at the time of purchase. The previous leaseholders were E.H. Woodhouse and F.R. Hume for most of the blocks, and D.J. O'Neill for Buckwaroon East (Anonymous 1876b).

In late 1879 (State Records Office NSW, Series 10101, item 7/3180), in partnership with William Clark, Francis H. Elworthy and W.C. Hill (lease Bourke 9) and then in partnership with Elworthy, Martin Henderson, Frank Murphy and Alexander Rankin (lease Bourke 12), Ramsay took out two gold mining leases on the property, attempting to join the mining boom at nearby

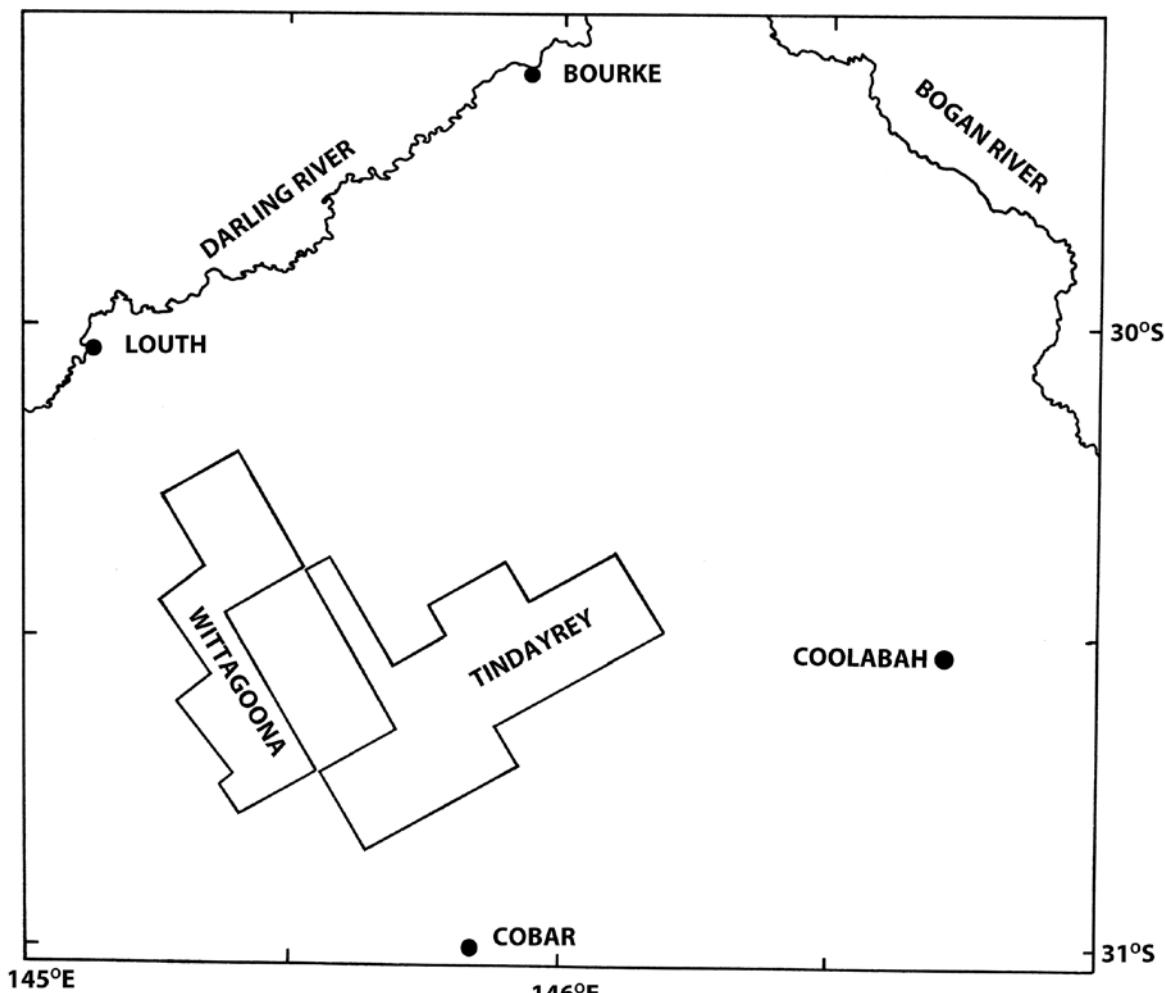


Figure 1. Location and extent of Tyndayrie and Wittagoona stations, based on the included runs as listed by Anonymous (1885). Location of runs based on maps published in Anonymous (1977).

Cobar. In 1882 a third lease was taken out (Cobar 82/1), in partnership with Clark, Elworthy and Hill. The leases became the Mount Billygoe Goldfield (Anonymous 1889a).

Although the 1878 season was marked by good rains, with the Tindayrey dams full (Anonymous 1878a,b), and flooding of the Darling occurred in 1879 (Anonymous 1886a), drought soon followed. In 1882, the Sydney Morning Herald noted "of 20,000 sheep from Brookong which passed Cobar on the 5th, only 9,000 are strong, and not more than 3,000 are expected to reach their destination at Tinday; the Bourke road is strewn with their carcasses" (Anonymous 1882b). In June 1881, David sold Tindayrey to Charles Alfred Chesney (Anonymous 1881a), and James was reported to have left the district for a while (Anonymous 1889a).

By 1884, James had returned to the district to run "Wittagoona" Station (Figure 1; variously also spelt Wattagoona, Wiltagoona and Wuttagoona). In 1885 the Wiltagoona Pastoral Holding comprised the Back of Back Dunlop's Range, Marwaree (or Marwarre, now Narwarre), Keriangundah (or Keirangundah), Booroondara, and Booroondara South runs (Anonymous 1885), while in 1889, the pastoral holding, with the same properties,

was described as being 108,740 acres of leasehold, with another 106,482 acres of resumed land (Hanson 1889). Wittagoona had been created by the founder of the adjacent town of Louth, Thomas Andrew Mathews, who had left the property in 1884. In September 1886, James stated that he had been in the district for two and a half years, suggesting he arrived at Wittagoona by March 1884 (Anonymous 1886a).

While James was at Wittagoona until about 1889 (Anonymous 1889b), he was unsuccessful as a grazier. His arrival coincided with drought, with one report noting that the property had lost 20,000 sheep and 4,000 cattle in that year (Anonymous 1884b). Two years later, he filed for insolvency, at which time he was described as a Station Manager, rather than owner (Anonymous 1886b,c; State Records Office NSW: insolvency file 20308). Wittagoona was placed on the market in the first half of 1888 (Anonymous 1888a).

Between 1889 and his death on 7 October 1913 at the family estate at Dobroyde (Anonymous 1913), James seems to have led a very quiet life with little public record. On 28 January 1889, his mother died at Dobroyde (Anonymous 1889c). The Dobroyde Estate (subsequently the Sydney suburb of Haberfield), which had been granted

as a wedding dowry for his mother, was subdivided on the earlier death of his father, and James had inherited two of the 20 blocks that were distributed among the family (the larger block was between Boomerang St and Waratah St and the Iron Cove waterfront, and the smaller block between Ramsay Rd, Parramatta Rd, Haberfield Rd and Sloane St, Haberfield; Pratton 1994). He returned to live there by the year after his mother's death (Sands 1890), himself dying at his house, "Dalhousie", which was located on the larger block, between modern-day Waratah St and Loudon Ave, Haberfield. The site of "Dalhousie" is now occupied (Gardiner 1991) by a public school (which the author attended between 1967 and 1972!).

The Ramsay family had an interest in natural history, initiated two generations previously (Brodsky 1960), and carried to its most extreme expression by Edward Pierson Ramsay (3 December 1842-16 December 1916), who became the curator of the Australian Museum (1874-1894). Like his other brothers, James accumulated observations of the local bird fauna, collected bird eggs for the family collection, and occasionally collected other specimens. His observations and bird eggs were frequently mentioned by Edward in his ornithological reports, and later by North (1889, 1901-1914). North (1889) cites observations made by James Ramsay at "Cardington" between August 1860 and September 1868, at "Nanama" between November 1866 and 1868 (with one odd early record from October 1860; North 1889: 229, which may be erroneous), and at "Merule Creek" between September 1867 and October 1869, while North (1901-1914) cites observations made by Ramsay at "Tyndarie" between September 1876 and 1882, and by James Ramsay and his son Edward Lord Ramsay at "Wattagoona" between September 1887 and November 1889.

Ramsay's herpetological collections

In addition to collecting birds and bird eggs for the family collection, James Ramsay sent occasional small collections of other animals. These were mostly donated to the Australian Museum, although there is one record of his sending insects to the Macleay Museum in 1880, where the locality is given as Fort Bourke (Fletcher 1929). The first collection sent to the Australian Museum containing herpetological specimens was among a larger collection of material from Merool Creek, received by the Museum by May 1877 (Anonymous 1877b). The herpetological specimens in this collection were reported as three burrowing frogs (as "Lymnodynastes sp."), four lizards (three geckos, "Strophurus spinigera", one agamid, "Grammatophora sp.") and five typhlopids. The frogs were exhibited at the meeting of the Linnean Society of New South Wales of 28 May 1877 (Anonymous 1878c), and were subsequently described by Fry (1913) as *Limnodynastes dorsalis* var. *interioris* (now *Limnodynastes interioris*), with one of Ramsay's specimens serving as the holotype (now registered as R5869, re-registered from the early Palmer Register, where it was 6892; Shea and Sadlier 1999). On the basis of the locality, the geckos are presumably *Strophurus intermedius*. The

identity of the agamid and the typhlopids is uncertain, with the specimens, like those of the gecko, no longer able to be found. Two agamids, *Amphibolurus nobbi* and *Pogona barbata*, and three typhlopids, *Ramphotyphlops tuberculatus*, *R. proximus* and *R. wiedii*, are known from the region (Swan *et al.* 2004).

The second herpetological collection from Ramsay was received in January 1880 and was reported in the press (Anonymous 1880) as single individuals of *Pseudechis* sp. nov., *Morelia variegata* and *Typhlops* sp. and two *Trachydosaurus* sp. nov. from "near Bourke". A registration entry in the early A register of the Museum corresponds to these specimens (and to mammals and birds listed in the same report), and gives the locality for the entire collection as Tyndarie. The *Morelia* (noted as juvenile) was registered as A7947, the *Pseudechis* as A7948, the typhlopid (as *Typhlops* sp. nov.) as A7949, and the two *Trachydosaurus* (listed simply as *Trachydosaurus* sp.) as A7950-51. None of these specimens are now able to be found in the collection, although *Morelia spilota metcalfei*, three species of *Ramphotyphlops*, and *Tiliqua rugosa* are known from the Cobar-Bourke region (Swan *et al.* 2004).

At the end of 1880, another collection arrived from Ramsay that included reptile specimens, listed in the monthly donations list as "Grammatophora barbata, *Diemenia superciliosa*, *Python* (nov. gen.), 2 *Hoplocephalus* sp." (Anonymous 1881b). On this occasion, the A register has entries for the birds that formed the majority of that collection, but none of the reptiles (or the two mammals that were included); again, the birds are registered as from Tyndarie. *Grammatophora barbata* is now *Pogona barbata*, although the genus is represented in the vicinity of Tindarie by *Pogona vitticeps*. *Diemenia superciliosa* is a synonym of *Pseudonaja textilis*, a species common in the area. The identity of the *Hoplocephalus* is uncertain, as that generic name was used for most small elapid snakes at the time.

In May 1887, four snakes were received from Ramsay, recorded as *Aspidites ramsayi*, *Dendrophis* sp. nov., *Hoplocephalus* sp. nov. and *Vermicella annulata* in the published list of donations (Anonymous 1887a). The first three species were sent down alive, and exhibited by Edward Ramsay at the meeting of the Linnean Society of New South Wales on 27 April 1887, with the locality given as Louth (Anonymous 1887b). Louth is the nearest town to Ramsay's then property, Wittagoona. The *Dendrophis* was described as "a beautiful snake with scarlet markings on the back". Registration entries for only the first three specimens are present in the Australian Museum collection (R112-114, registered June 1887) - the fate of the *Vermicella* is unknown. While the entire registration entry is written in one hand, the locality is pencilled in rather than written in ink, and is only given for the first specimen, the python. None of the specimens can now be found. Of these specimens, the *Dendrophis* is the most problematic. The genus (now *Dendrelaphis*) is represented in New South Wales only by the green tree snake, *Dendrelaphis punctulatus*, an arboreal colubrid, and there are no colubrids known from that part of New South Wales (Swan *et al.* 2004). The only snake occurring in the

vicinity of Louth which could be described as possessing scarlet markings on the body dorsum is the burrowing elapid *Brachyurophis australis*, although the common name scarlet spotted snake was sometimes used for the elapid *Furina diadema* at the time (Krefft 1869; Dunbar 1888).

Two months later, a single "small" snake of unrecorded identity was received (Anonymous 1887c) and registered as R124, and between January and March 1888, nine more reptiles were registered into the museum collections from Ramsay (R175, *Brachyurophis australis*, Cobar, registered 12 January; R216, *Diemenia nuchalis* (now *Pseudonaja aspidorhyncha* from this geographic region), Cobar, registered 25 January; R254, two *Gymnodactylus miliusii* (now *Underwoodisaurus miliii*), R255, *Lialis burtonis*, R256, two *Diplodactylus spinigerus* (now likely to be *Strophurus intermedius* from this geographic region) and R257, *Diemenia nuchalis* (i.e. *Pseudonaja aspidorhyncha*), all from Wattagoonah, registered 23 February; R259, *Notaden bennetti*, Cobar, registered on the same date; and R318-19, *Diemenia nuchalis* (i.e. *Pseudonaja aspidorhyncha*), no locality recorded, registered 17 March). The February donations at least correspond to the published list of donations for that month (Anonymous 1888b), which lists a snake (*Diemenia*), a pygopod (*Lialis burtonis*), 2 "banded geckos, *Gymnodactylus miliusii*", a *Strophurus spinigerus*, and two live carpet snakes from him. Of these, I am only able to locate R175, R216 and R319 to confirm the identifications. The tag for R255 is noted in the register as found separated from the specimen in 1912, R257 is recorded as destroyed in 1901, and R259 and R318 were exchanged with other collections. At the time all of these specimens were sent, Ramsay was still at Wittagoona, but may have sent the material via Cobar.

At the meeting of the Linnean Society of 27 March 1889, Edward Ramsay exhibited a living *Nardoa gilberti*, which he noted was "one of several caught and forwarded by James Ramsay of Wattagoona" (Anonymous 1889d). *Nardoa gilberti* is a synonym of *Antaresia childreni*, the Children's Python. With subsequent revision, the north-western NSW representative of this genus is *Antaresia stimsoni* (Smith 1985). There are no Australian Museum specimens corresponding to the snakes exhibited – it is possible that they were sent to the Zoo alive, as there is a record of the purchase of two live *Nardoa gilberti* by the Zoological Society of New South Wales from their June meeting report of that year (Anonymous 1889e).

The final collections received from Ramsay were received long after his retirement to the Dobroyde Estate. Two *Diemenia superciliosa* (*Pseudonaja textilis*) were registered in July 1896 (R2040-41, no locality given), and a small number of miscellaneous reptiles: the elapid snakes *Diemenia nuchalis* (R2581, now *Pseudonaja aspidorhyncha*), *Denisonia gouldii* (R2582, specimen identification now *Parasuta dwyeri*), *Furina occipitalis* (R2583, now *Vermicella annulata*) and *Denisonia maculata* var. *ornata* (R2584, now *Denisonia devisi*); the gecko *Gehyra variegata* (R2585); the pygopod *Lialis burtonis* (R2586), the skink *Ablepharus boutonii* (R2587, specimen identification now *Cryptoblepharus australis*) and the gecko *Diplodactylus spinigerus* (R2588, presumably *Strophurus intermedius*) in October 1899, with

locality simply "Bourke". I cannot locate R2040-41, but have seen R2581-82, R2584-85 and R2587 to confirm the identifications. Kluge (1976) examined R2586, while Keogh and Smith (1996) examined R2583. R2588 was exchanged with the Queensland Museum in 1912.

The *Pseudechis* sp. nov. and the *Python* gen. nov. from the two 1880 collections are almost certainly the holotypes of *Diemenia ferox* and *Aspidiotes ramsayi*. They are the only possible specimens from James Ramsay that could represent those species available before Macleay presented the description of those species on 30 November of the following year, and were both noted as new taxa on receipt. That they were sent by James Ramsay to his brother Edward Ramsay at the Australian Museum also fits the information presented by Macleay, who notes that E.P. Ramsay provided him with the specimens. The receipt of the two snakes in 1880, the registered locality Tyndarie, and Macleay's comment that they came from James Ramsay's property, which at the time was Tyndayrey, makes it clear that the type locality for both taxa must be considered to be Tindarie, a locality 117 km south of Bourke.

Given that Tindarie is much closer to Cobar, which was founded in 1869, the question must be asked as to why Macleay provided the locality as Fort Bourke. At the time that Ramsay was at Tindarie, Bourke was the major town in western New South Wales, and the supplies to and ore from Cobar still relied on Bourke and Louth, and the river trade from there to Adelaide. Contemporary reports of the Cobar mines in the Sydney press were mostly under the heading Bourke (e.g., Anonymous 1874, 1876d). It was not until 1878 that the first traffic occurred on the Orange-Parkes-Cobar land route (Anonymous 1878d).

Recognition that the types of *Diemenia ferox* and *Aspidiotes ramsayi* came through the Australian Museum also provides some information on their likely fate. The registration entry for A7948 notes that it was sent to the "Gallery Collection", in other words, placed on display. Many of the display specimens of that era were discarded or otherwise lost after their period on display, as they had faded in the light, or macerated in preservative that had weakened in strength over years of storage of the jars in glass display cases. That the type of *Aspidiotes ramsayi* was not registered into the collection together with the bird collection received at the same time suggests that it was passed onto Macleay prior to registration, and it may either never have been returned, or on its return the associated data were lost. I have explored the possibility that the second specimen (AM R1608) recorded by Waite (1894) in his redescription of the species, which he noted was a specimen lacking data and found unregistered in the Australian Museum collection, might be the missing holotype. However, it has 62-64 midbody scales (depending on where the count is made near midbody), compared to Macleay's count of 53, 301 ventral scales (vs. 293), 52 subcaudals (with a healed over stump where the tip is missing; vs Macleay's 48 single and 4 divided subcaudals), a total length of about 227 cm (compared to the total length of 75 inches [=190.5 cm] reported by Macleay), and a tail length of 197 mm (cf. 9 inches [=229

mm]). Nor can it be an *Aspidites ramsayi* reported to have been received by the Museum in November 1884 from Charles Smith Wilkinson, then-president of the Linnean Society, as that was noted at the time to be a skin rather than a whole specimen (Anonymous 1884c); further, that specimen (B5069, also now missing) has the locality Barrier Ranges. R1608 may, however, be the missing specimen R112, Ramsay's second specimen of *Aspidites ramsayi*, collected during his time at Wittagoona and sent down to Sydney alive.

Ramsay's natural history observations and collections may also provide a hint as to why both *Oxyuranus microlepidotus* and *Aspidites ramsayi* seem to have subsequently disappeared from the area to the east of the Darling River. Among the mammals he sent with the type of *Diemenia ferox* from Tindayrey were a bilby (*Macrotis lagotis*) and two boodies (*Bettongia lesueuri*). Six years later, in his submission to the Water Commission of 1886, he noted that:

"...he believed rabbits were spreading on the station [Wittagoona]; he had been trying for a short while only to kill them, and had destroyed between 50 or 60, but the cost was £100 a piece, if not more; he knew for some time that they were on the station; there were bilboas or burrowing kangaroos, called by the aborigines pikus; these were not bilbies; they burrowed in colonies, but seemed to be dying out, and the rabbits took possession of the burrows" (Anonymous 1886a).

Both bilbies and boodies, as well as most other medium-sized native mammals, are now extinct in western New South Wales, with the most recent confirmable records

from the Western Division of the state being 1898 and 1892 respectively (Dickman *et al.* 1993). Residual structures interpreted as boodie warrens are still present on Tindarie (Noble 1993). Ramsay's time at Tindarie and Wittagoona seems to have coincided with the decline of the medium-sized native mammal fauna. Covacevich and Couper (1996) reported a potential association between *Aspidites ramsayi* and bilbies in Queensland, and the apparently concurrent disappearance of both species, together with boodies, in New South Wales may provide additional support for this theory. Indeed, in this south-eastern limit of the distribution of *Aspidites*, coinciding with very hard soils with a calcrete layer (Noble 1993), atypical of their normal preference for sandy soils (Ehmann 1992), it may have been the loss of boodies and the collapse of their warrens, resulting in the loss of shelter for these large ground-dwelling pythons, that resulted in their decline. The species in the rest of its distribution shelters in mammal burrows (Waite, 1929; Ehmann, 1992).

The herpetological collections made by James Ramsay, while small, are valuable as being amongst the earliest herpetological collections from western New South Wales. Prior to Ramsay, the only significant herpetological collections or observations from the region were Krefft's observations on the reptiles in the region of the Murray-Darling junction, made during the Blandowski expedition (Krefft 1858, 1863, 1866), the scanty herpetological observations made by Ludwig Becker on the Victorian Exploring Expedition (Tipping 1979), together with the contemporaneous collections made by Kenrie Harold Bennett in south-western New South Wales.

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